



U.S. Navy Illustrations

Product

Custom Couplings and Clutch/Brakes

Application

Naval Gun System

Highlights

Inertia Dynamics

Custom Clutch/Brakes

Designed to meet stringent specifications and performance characteristics

Ameridrives

Custom Gear Couplings

Specifically developed to withstand the bending/flexing of the ship

Inertia Dynamics and Ameridrives Couplings were selected to provide clutch/brake and gear coupling solutions for use on the advanced gun system aboard the U.S. Navy's new DDG 1000 Zumwalt-class destroyers. The multi-mission ships feature an advanced gun system (AGS) that uses specially-designed 155 mm artillery shells. A battery of two AGS's, firing-rocket assisted projectiles, will provide precision strikes and volume fire at a range of up to 83 nautical miles. The system is equivalent to twelve howitzers.

The gear couplings are positioned between the clutch/brakes and drive motors throughout the high-speed system including munition transfer/loading conveyors, vertical elevation/lift mechanisms and turret rotation drivetrains. Standardized designs were required for all drivetrain components used throughout the AGS allowing for a minimum number of spares to be carried on board. All units meet stringent customer specifications and performance characteristics.

The engineering team at Inertia Dynamics developed a completely custom clutch/brake specifically for this unique gun system application. Ameridrives engineered a custom gear coupling that could meet the varying temperature change requirements as well as withstand the bending/flexing of the ship during combat maneuvers. The 5" diameter couplings provide precise, predictable backlash to ensure accurate gun aiming/positioning on target.

Contact Inertia Dynamics

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